

What is claimed is:

1        1. An LED package, comprising:  
2            a light emitting element;  
3            a first optical section that is disposed around the light  
4            emitting element; and  
5            a second optical section that is disposed around the first  
6            optical section while being separated from the first optical  
7            section;  
8            wherein a gap is formed between the first and second  
9            optical sections, the gap allows part of light emitted from the  
10          light emitting element to be radiated from the first optical  
11          section as nearly parallel light converged in the direction  
12          vertical to the center axis of the light emitting element, and  
13          the second optical section includes a reflection surface to  
14          reflect the nearly parallel light in the direction parallel to  
15          the center axis of the light emitting element.

1        2. The LED package according to claim 1, wherein:  
2            the part of light emitted from the light emitting element  
3            is in a range of about 45 to about 90 degrees to the center axis  
4            of the light emitting element from the light emitting element.

1        3. The LED package according to claim 1, wherein:  
2            the first optical section is provided with a recess to  
3            house the light emitting element.

1        4. The LED package according to claim 3, wherein:  
2            the recess has a phosphor layer formed on its surface.

1       5. The LED package according to claim 1, wherein:  
2           the first optical section is formed sealing integrally  
3           the light emitting element.

1       6. The LED package according to claim 5, wherein:  
2           the light emitting element is mounted on a lead frame.

1       7. The LED package according to claim 1, wherein:  
2           the first and second optical sections are in contact with  
3           each other in a region in a range of about 45 degrees or less  
4           to the center axis of the light emitting element.

1       8. The LED package according to claim 7, wherein:  
2           the first and second optical sections are in contact with  
3           each other in the region through an optical adhesive.

1       9. The LED package according to claim 1, wherein:  
2           the second optical section includes a plurality of the  
3           reflection surfaces on its bottom side.

1       10. The LED package according to claim 9 wherein:  
2           the plurality of the reflection surfaces are formed  
3           stepwise in cross section.

1       11. The LED package according to claim 9 wherein:  
2           the plurality of the reflection surfaces are  
3           intermittently formed in the circumference direction of the  
4           second optical section.